

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 96-138

REVISION OF ORDER NO. 90-160, WASTE DISCHARGE REQUIREMENTS FOR
REINFILTRATION OF TREATED GROUNDWATER FOR:

MONSANTO COMPANY, LAFAYETTE
HOLDING CORPORATION, AND
SPIEKER PROPERTIES

FOR THE PROPERTY LOCATED AT:

2710 LAFAYETTE STREET
SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. Site and Regulatory History. On December 12, 1990, the Board adopted Waste Discharge Requirements (WDR) Order No. 90-160 for the reinfiltration of treated groundwater for Monsanto Company and CAMSI IV, for the property located at 2710 Lafayette Street in Santa Clara.
2. In the time interval between the adoption of the 1990 Order and this date, the CAMSI IV partnership has been dissolved, the property has been acquired by a new owner and redeveloped into an industrial park, and major modifications have been made to the extraction/ treatment and infiltration systems on the site.
3. Monsanto Company (Monsanto) previously owned and operated a plastic and resin manufacturing facility at the site. Monsanto is primarily responsible for site cleanup and has been effectively operating the remediation and infiltration systems since WDR 90-160 was adopted. The successor to the CAMSI IV partnership is the Lafayette Holding Corporation. Lafayette Holding sold the property to Spieker Properties on May 16, 1995. If Monsanto should default on remedial activities, Lafayette Holding and Spieker Properties are secondarily responsible for removal of contaminated groundwater, and reinfiltration of treated groundwater to the shallow aquifer.
4. Site investigations have been conducted since about 1981. Various contaminants have been found in soil and groundwater, including up to 290 ppm (parts per million) PCBs in soil, and up to 4,600 ppb (parts per billion) VOCs, predominantly TCE, in groundwater.
5. PCB-contaminated soil has been removed; and the VOC (TCE) concentration has decreased to 1,200 ppb in groundwater as the result of treatment predominantly by air stripping and carbon adsorption.

6. Monsanto has considered the feasibility of reclamation or reuse of the treated extracted groundwater, or discharge to a publicly owned treatment works (POTW) as specified in Board Resolution No. 88-160.
7. Discharge to a POTW was not viable, and Monsanto determined that reclamation/reuse of the treated extracted groundwater is feasible and has constructed and operates an on-site infiltration trench for this purpose.
8. System Modifications. Consequent to site redevelopment, modifications to the extraction and treatment systems were required. Because a significant portion of the former extraction-trench system is now covered by new construction and no longer useable, extraction in the remaining portion of the system is augmented by the operation of three newly installed extraction wells. The old treatment system has been dismantled and a new one assembled and relocated. Treatment now is by ozonation and carbon adsorption.
9. The 300-foot long north-to-south infiltration trench has not been affected by site redevelopment; an effluent line from the new treatment plant has been constructed to convey effluent to this trench.
10. Monsanto has submitted an acceptable contingency plan for handling excess treated extracted groundwater in the event that infiltrated water levels approach the top of the permeable backfill to the infiltration trench.
11. Basin Plan. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater.
12. The existing and potential beneficial uses of the underlying groundwater are:
 - a. municipal and domestic supply
 - b. industrial process and service supply
 - c. agricultural supply
13. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin". The Discharger's groundwater extraction, treatment and infiltration systems and associated operation, maintenance and monitoring plans constitute an acceptable control program for minimizing the discharge of toxicants to waters of the State.

14. Effluent Limitations. Effluent limitations of this Order are based on the Basin Plan, State and U.S. Environmental Protection Agency (EPA) plans and policies, and best engineering and geologic judgement. EPA Region IX draft guidance "NPDES Permit Limitations for Discharge of Contaminated Groundwater:Guidance Document", was also considered in the determination of effluent limits.
15. CEQA. The project constitutes a minor modification to land and such activity is thereby exempt from the provisions of the California Environmental Quality Act in accordance with Section 15304, Title 14, of the California Administrative Code.
16. UIC. The Dischargers are not required to comply with the Underground Injection Control Program (40 CFR Part 144) because the depth of the infiltration gallery does not exceed the largest surface dimension.
17. Cost Recovery. Pursuant to Section 13304 of the California Water Code the Dischargers are hereby notified that the Board is entitled to and may seek reimbursement for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by Board Order.
18. Notification. The Board has notified the Dischargers and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
19. Public Meeting. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Dischargers, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. EFFLUENT LIMITATIONS

1. Purge water will be generated during periodic groundwater sampling, and rain water may fall on and collect within the treatment compound. This purge water and rain water may be introduced into the groundwater treatment system.

Other authorized wastes may also be generated in connection with on-site remediation activities, and may be introduced into the treatment system.
2. Upon adoption, instantaneous maximum effluent discharge shall not contain constituents in excess of the limits of Table 1 below:

Table 1

<u>Constituent</u>	<u>Effluent Limit (ug/L)</u>
<u>VOCs</u>	
Chloroform	5.0
Chlorobenzene	5.0
1,1,1-trichloroethane	5.0
Tetrachloroethylene	4.0
Trichloroethylene	5.0
1,1-dichloroethylene	5.0
1,2-dichloroethylene (cis- or trans-)	5.0
1,1-dichloroethane	5.0
1,2-dichloroethane	0.5
Vinyl chloride	0.5
Total VOCs	5.0
Benzene	1.0
Ethylbenzene	5.0
Toluene	5.0
Xylenes	5.0
Polynuclear aromatic hydrocarbons (PNAs)	15.0
Polychlorinated biphenyls (PCBs)	2.0

3. The pH of the discharge shall not exceed 8.5 nor be less than 6.0.
4. The Dischargers shall report any other organic constituents identified during any required analysis, or in the course of other site investigations or remedial activities, that may be or become a constituent in the discharge regulated by this Order.

B. PROHIBITIONS

1. The treatment, storage and discharge of extracted and waste groundwater and/or other waste shall not create a nuisance as defined in Section 13050(m) of the California Water Code, nor degrade the quality of any useable groundwater.

2. There shall be no bypass or overflow of untreated or inadequately treated extracted or waste groundwater or other waste to waters of the State from the Dischargers' wastewater collection, treatment or distribution facilities.
3. No extracted or waste groundwater or other waste shall be allowed to escape from the designated recharge area as surface flow nor be disposed of to an area other than that stipulated in this Order, except as pursuant to an acceptable and/or approved contingency plan.
4. The discharge of waste other than: extracted groundwater and water derived on-site from the extraction system, groundwater-sampling purge water, rain water which falls on the treatment plant (system) and collects in the sump within the containment structure around the treatment compound, and other wastes which are compatible with the treatment system and meet all discharge requirements as specified in this Order, is prohibited.

C. PROVISIONS

1. The Dischargers shall comply with all sections of this Order upon adoption by the Board.
2. The Dischargers shall comply with the Self-Monitoring Program as adopted by the Board and as may be amended, modified or revised by the Executive Officer.
3. The Dischargers shall notify the Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.
4. Any discharge to a location other than the discharge point(s) specified in this Order will require a modification to this Order or submission of another discharge application.
5. The Dischargers shall maintain a copy of this Order at the site so as to be available at all times to operators for the responsible party(ies).
6. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board and using U.S. EPA-approved method(s) for the type of analysis to be performed. All laboratories shall maintain quality assurance and quality control records for Board review.
7. The Dischargers shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

8. The Dischargers shall permit the Board or its authorized representatives in accordance with California Water Code Section 13267(c):
 - a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept which are relevant to this Order.
 - b. Access to any records that must be kept under the conditions of this Order.
 - c. To sample and monitor soil or groundwater for the purpose of assuring compliance with this Order.
 - d. Inspection of any methodology implemented, or any monitoring, extraction, treatment or infiltration equipment used in response to this Order.
9. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited, or probably will be discharged in or on any waters of the State, the Dischargers shall report such discharge to the following:
 - a. The Board at (510) 286-1255; and,
 - b. The Office of Emergency Services at (800) 852-7550.
10. The Dischargers shall be liable, pursuant to Section 13304 of the California Water Code, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by Board Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to procedures established in that program. Any disputes raised by the Dischargers over the reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures of that program.
11. The Board will review this Order periodically and may revise the requirements when necessary.
12. Waste Discharge Requirements (WDR) Order No. 90-160 is rescinded upon adoption of this Order.

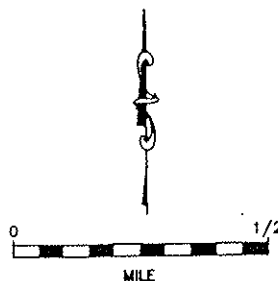
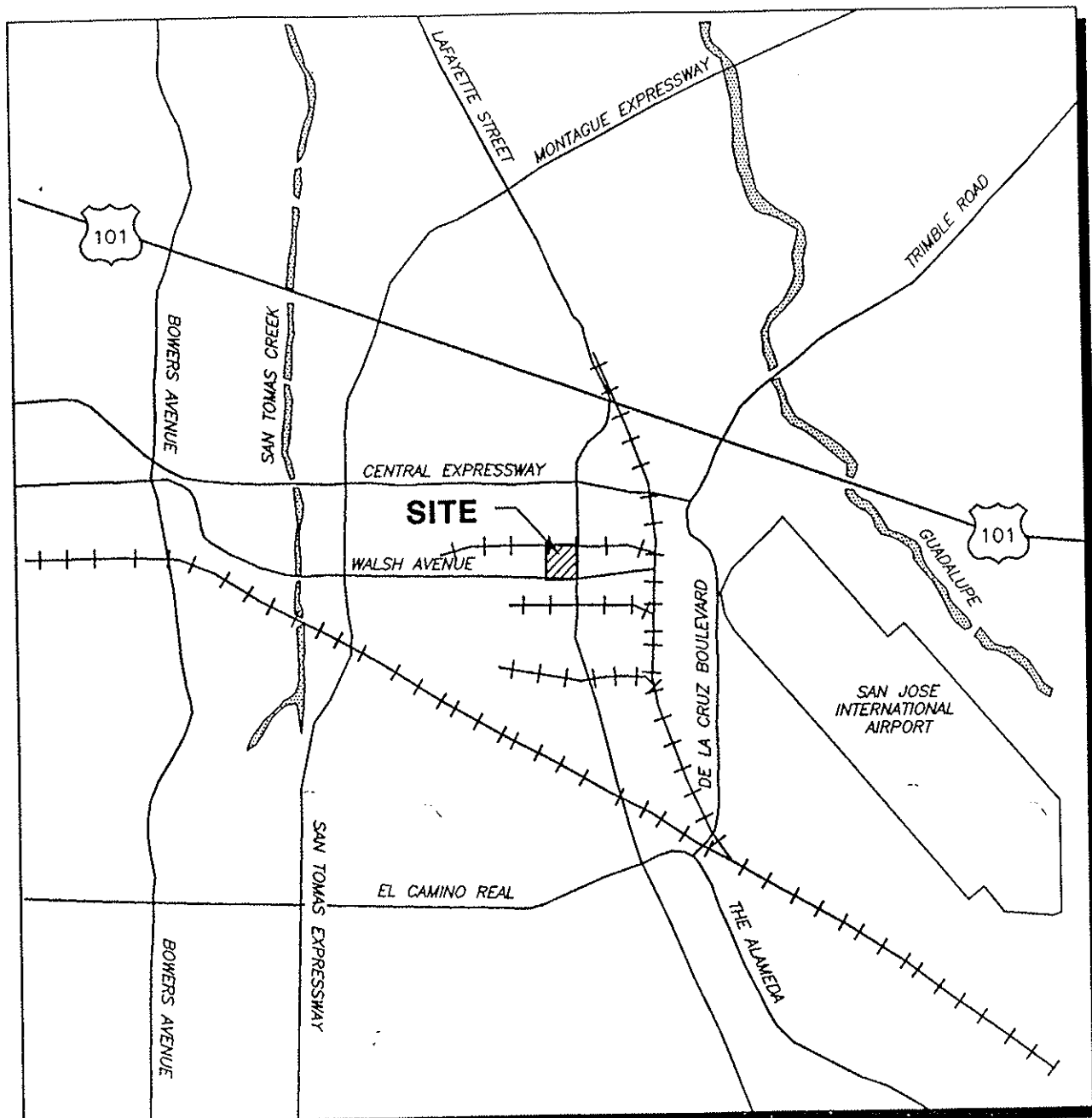
I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 16, 1996.

A handwritten signature in cursive script, reading "Loretta K. Barsamian".

LORETTA K. BARSAMIAN
Executive Officer

Attachments:

Site Location Map (Figure 1)
Self-Monitoring Program



REFERENCE: BASE MAP MODIFIED FROM KLEINFELDER, CAMSI IV PROPERTY
SANTA CLARA, CA, PLATE 1, DATED 2/3/94.

FIGURE 1 SITE LOCATION MAP

LAFAYETTE HOLDINGS (CAMSI IV) PROPERTY/SANTA CLARA, CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

MONSANTO COMPANY

ET AL

FOR THE PROPERTY LOCATED AT 2710 LAFAYETTE STREET
SANTA CLARA, SANTA CLARA COUNTY

WASTE DISCHARGE REQUIREMENTS

ORDER NO. 96-138

A. General

1. Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.
2. The principal purposes of a Self-Monitoring Program by a waste discharger are to document compliance with waste discharge requirements and prohibitions established by the Board; to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge; to develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards; and to prepare water and wastewater quality inventories.

B. Sampling and Analytical Methods

1. Sample collection, storage, and analyses shall be performed according to the 40 CFR 136 or other methods approved and specified by the Executive Officer of this Regional Board.
2. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State Department of Health Services. The Director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.
3. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. Specifications for Sampling and Analysis

1. The Discharger is required to perform sampling and analysis at the points listed below and according to the schedule in Table 1.

2. Influent-groundwater sampling points:

The present system configuration includes one effluent line from each extraction source, wells EXT-A, EXT-B, and EXT-C. The three influents are not commingled prior to the Collection and Reaction Mix Tank of the treatment system, thus requiring that each influent source be sampled ahead of treatment. There are three influent sampling points:

- I-1 At a point in the EXT-A influent line ahead of the Mix Tank.
- I-2 At a point in the EXT-B influent line ahead of the Mix Tank.
- I-3 At a point in the EXT-C influent line ahead of the Mix Tank.

3. Effluent-water sampling points:

- E-1 At a point in the groundwater treatment system effluent conveyance line prior to discharge into the infiltration trench.

TABLE 1

	<u>I-1, I-2, I-3</u>	<u>E-1</u>
Treated groundwater flow rate (gal./day)		D
System operation*		M
EPA 8010 and 8020	Q/S	Q
pH, units	Q	Q

D = daily; inasmuch as it is not appropriate to have the flow rate recorded daily because Monsanto does not occupy the site, the flow rate will be recorded when the system is inspected periodically (once monthly) and a daily flow rate will be calculated from the differential between consecutive monthly totalizer readings.

M = monthly (once per month)

Q = quarterly (four times per year)

Q/S = influent samples collected for analysis individually (separately) from each influent line initially for four consecutive quarters; after which individual samples from each influent line will be collected once per quarter, but samples from each line will be analyzed only twice per year, for the first and third calendar quarters; for the other two sampling events, samples may be composited in the laboratory and a composite result reported for the extracted groundwater influent.

* monthly visual confirmation that surface run-off is not occurring, and that the back-pressure device for inflow to the infiltration trench is operational. This site uses a computerized system to monitor and control operation of the extraction/treatment systems, using redundant instrumentation to shut off appropriate portions of the system in the event of an upset condition, such as a tank overflow, which otherwise could result in a spill and surface runoff.

The computer control and monitoring system is accessed remotely by modem. If necessary, the system can be shut down and restarted remotely. Control

instrumentation also is available to shut down the system in case of malfunction of the back-pressure device.

D. Records to be Maintained

1. Written reports, calibration and maintenance records, sampling and analytical records, and other compliance records shall be maintained by the Dischargers for a period equal to the life of this Order, but not less than three years. The most recent three-year period of records shall be available at the discharge facility named in this Order, and the balance of the records, three years and older may be maintained at the Dischargers' office. The period of retention may be extended due to unresolved litigation or by request from the Regional Board. Records shall be made available to the Board upon request by the Executive Officer.
2. Tabulation of flow to the infiltration trench to provide observed flow meter totalizer readings, calculated average flow rates, and cumulative volume. Refer to "Data" section below.

E. Reports to be Filed with the Regional Board

Report of Order Violations

In the event Dischargers violate or threaten to violate the conditions of the waste discharge requirements, the Dischargers shall notify the Regional Board within 24 hours. Notice by telephone may be made to (510) 286-1255, with a written confirmation report forwarded within five working days of the violation.

Self-Monitoring Reports

Written reports shall be filed regularly for each calendar quarter, and no later than May 15, August 15, November 15, and February 15.

Quarterly Reports shall include:

- 1) Letter of Transmittal - A letter transmitting each self-monitoring report shall include any requirement violations occurring during the last report period, and actions taken or planned for correcting the violations. If no violations have occurred in the current report period this shall be stated in the letter of transmittal. Include reference to past reporting violations and corrective measures taken.
- 2) Data - All monitoring and operational data are to be submitted in tabular form, and should include at least the following:
 - a) Table 1 Results - including calculated average flow rates and sampling analytical results. Analytical results to be presented by station, date and type of sample.

- b) Treatment System Performance Data - summary of performance data by the month, for the quarter, including calculated average flow rate, influent and effluent concentrations and total pounds of VOCs removed.
 - c) Purge Water Characteristics - volume, constituents and their concentrations, and date(s) introduced to treatment system, of purge water generated from sampling.
 - d) Characteristics of any other authorized fluid or waste stream, excluding incidental rain water collected in the treatment compound sump, discharged to the infiltration trench during the reporting period - volume, constituents and their concentrations, and date(s) introduced to the treatment system.
- 3) Site Map - a site map for all discharge areas shall accompany each quarterly report; this map shall show locations of sample and observation stations. and any location and/or area where a violation has occurred.
- 4) Discussion of Monitoring Activities - the report shall include a detailed discussion of the following monitoring activities:
 - a) Order Violations - any violation of requirements of this Order which occurred during this reporting period, cause of violation, and actions taken or planned to achieve compliance.
 - b) Sampling and Monitoring - all sampling and monitoring points and methodologies to be detailed in the first quarterly report submitted after adoption of this Order; thereafter only changes in sampling and monitoring points and methodologies need be discussed.
 - c) Recharge Mound - location and configuration of the recharge mound, monitored according to the accepted and/or approved contingency plan. Monitoring points should provide groundwater depth and concentration data upgradient, downgradient and in areas adjacent to the infiltration trench. If necessary to maintain hydraulic control of the recharge mound, adjustments in operation of the infiltration trench shall be proposed.
 - d) Infiltration Trench Performance - any symptoms that may be identified which may signal failure of the infiltration trench through clogging, saturation or other mechanism. Monitoring locations and measurements shall be as specified in the accepted and/or approved contingency plan.
- 5) Signature - All reports shall be signed by a principal executive officer of at least the level of vice president or his duly authorized representative. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. The letter shall contain the following certification: "I am aware that there are significant

penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Annual Reporting

By February 15 of each year, the Dischargers shall submit an annual report to the Regional Board covering the previous calendar year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a discussion of the compliance record and corrective actions taken or planned which may be needed to reach full compliance with the waste discharge requirements. The annual report may include the quarterly report due concurrently.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program is as follows:

1. Developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No.
2. Effective on the date shown below; and,
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the Dischargers.


Loretta K. Barsamian
Executive Officer

October 16, 1996
Date Ordered